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THESIS

MULTIYEAR PROCUREMENT:
A DESKTOP GUIDE

by

David R. Sutton

June 1997

Thesis Advisor: Mark W. Stone

Thesis
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REPORT DOCUMENTATION PAGE

Form Approved OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE June 1997	3. REPORT TYPE AND DATES COVERED Master's Thesis

4. TITLE AND SUBTITLE MULTIYEAR PROCUREMENT: A DESKTOP GUIDE	5. FUNDING NUMBERS
6. AUTHOR(S) Sutton, David R.	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey CA 93943-5000	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES: The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.

12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.	12b. DISTRIBUTION CODE

13. ABSTRACT *(maximum 200 words)*

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14. SUBJECT TERMS Multiyear Procurement			15. NUMBER OF PAGES 102 16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UL

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. 239-18 298-102

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MULITYEAR PROCUREMENT: A DESKTOP GUIDE

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Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

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ABSTRACT

This thesis provides a desktop guide to assist the program manager in the use of multiyear procurement. Information is provided to help the program manager in selecting multiyear candidates and guidance is provided to assist the program manager in the implementation of multiyear procurement. A questionnaire was used to elicit information from multiyear procurement users about problematic issues they have encountered. It is difficult to develop a system that meets the disparate needs of the contractor, Department of Defense, and Congress. The end result has been the development of a system based on compromise and accommodation. The responses to the questionnaires indicated, while there are aspects of multiyear procurement that some program offices would, at times, like to change, multiyear procurement is workable as is.

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I. INTRODUCTION

A. AREA OF RESEARCH

Multiyear procurement is a method of contracting which covers more than one year's, but not in excess of five year's requirements. A multiyear contract is an alternative to a series of annual contracts in which the end items are procured one year at a time. It can benefit the government by saving money and improving contractor productivity. Possible risks exist which are covered by a cancellation ceiling. Also, certain criteria must be met and adherence to general procedures is required to effectively process a multiyear contract. This thesis addresses the disadvantages and advantages of multiyear contracting. It also focuses on the concepts and general procedures required for the effective implementation of a multiyear contract. Problematic issues encountered by personnel involved in multiyear procurements, and the actions they took to overcome them are outlined in this thesis.

B. RESEARCH QUESTIONS

The primary research question is—what are the required procedures for the preparation and approval of a multiyear procurement?

Subsidiary questions include:

I. What are the funding requirements for multiyear procurement?

II. What documentation is required to support a decision to use a multiyear contract?

III. What are current issues procurement personnel confront while working with multiyear procurements?

C. DISCUSSION

The action to put together a guide on the use of multiyear contracting arose out of the Navy Research, Development and Acquisition Team Strategic Plan. There were seven groups created to implement or bring to closure ideas flowing from the RDA Strategic Planning Sessions, the first Navy-CEO Conference, and the Management Action Plan. The seven groups mirror the organization of the Strategic Plan - Workforce, Business Practices, Total Cost of Ownership, Organizational Management, Innovation/Technology, Customer/Stakeholder Credibility, and Communications. Members of these teams are cross-functional and cross Navy organizational.

The original action on multiyear contracting came from the Management Action Plan. It was worded: "Identify the Barriers to using multiyear contracting in order to maximize its use." A second action came from a strategic planning offsite, and was listed as "Long term and multiyear contracts." A working subgroup developed a recommendation which contained the statutory and regulatory language on multiyear contracting, and concluded that a guide be developed to assist managers in the use of multiyear contracts. The intent of this handbook is to place multiyear procurement background, concepts, and guidance for the use of multiyear procurement at the fingertips of the program managers.

D. SCOPE OF THESIS

The core of this thesis is the handbook for program managers. This handbook explains what multiyear procurement actually consists of and detail the procedures necessary for multiyear procurement approval. Examples of documentation that are required for multiyear procurement approval are included. While this thesis discusses the requirement to demonstrate substantial multiyear procurement cost savings, it does not develop a comprehensive multiyear cost model. To further assist the program manager in making the decision to use multiyear procurement, a section on major issues in multiyear procurement is incorporated.

E. METHODOLOGY

The methodology used by the researcher consists of two basic procedures: (1) review of pertinent literature, (2) the use of telephone interviews, and (3) questionnaires. The comprehensive review of relevant outstanding literature on multiyear procurement consisted of obtaining reports and information from the following sources:

- Defense Logistics Studies Information Exchange
- Naval Postgraduate School
- Federal Regulations
- Public Law
- Professional journals.

The literature search was performed to provide the researcher with a broad background and understanding of multiyear procurement. The telephone interviews were conducted primarily to establish firm points of contact for the questionnaires. Qualitative data was accumulated based on questionnaires completed by key personnel associated with multiyear procurement. Questionnaires were completed by acquisition managers, program managers, contract specialists, financial managers, and government contractors. The questionnaires were disseminated and responded to through the use of e-mail.

F. CHAPTER OUTLINE

I. Introduction - Research questions, methods, and scope.

II. Background - Understanding multiyear procurement.

III. The multiyear procurement process.

IV. Issues in multiyear procurement today.

Appendices:

- Definitions
- Examples of support documentation
- Multiyear Procurement flow chart
- Multiyear Procurement timing process

G. BENEFITS OF STUDY

Although multiyear procurement is a viable procurement strategy, it is not being fully utilized within the Department of the Navy. The results of this research make valuable information regarding multiyear procurement readily available to the program office. With a better understanding of multiyear procurement concepts and procedures, Program Managers will be more likely to consider multiyear contracting as a possible acquisition strategy. In our current environment of shrinking budgets and personal resources within the United States Government, optimization of multiyear procurement is vital to the success of efficient and economical contracting.

II. BACKGROUND - UNDERSTANDING MULTIYEAR PROCUREMENT

A. BACKGROUND

The history of multiyear procurement dates back to the 1960's. During the late 1960's DoD had little trouble using multiyear procurement for acquisition. There was little reason to challenge the cancellation record of government agencies, since few contracts were actually canceled. Evidence to that effect was produced by a 1965 Logistics Management Institute study that reviewed all (42) multiyear contracts issued prior to 1965 and found that none had been canceled. The study also asserted that these multiyear contracts accounted for administrative savings in excess of $1.25 million.

Beginning with the early 1970's, multiyear procurement faced a dramatic slowdown. In 1972, the Navy presented Congress with two cancellation charges totaling over $388 million resulting from problems with shipbuilding contracts that happened to be multiyear. Because this cancellation charge had not been funded, Congress was forced to enact special legislation to provide payment owed the contractor. In response to this, Congress established a $5 million cancellation ceiling, which became law as part of the FY 1973 Armed Forces Authorization Act. This action was the legislators' way of maintaining control over multiyear contracting for weapon systems, and it effectively eliminated major acquisitions from multiyear procurement. [Ref. 29: p. 46]

In 1981, the Deputy Secretary of Defense, Mr. Frank Carlucci, proposed a package of initiatives to improve defense weapon system acquisition, including greater use of multiyear procurement to reduce cost and enhance program stability. As a direct result of Mr. Carlucci's Acquisition Improvement Program (AIP) initiatives, Section 909 of the Department of Defense Authorization Act of 1982 (Public Law 97-86) was born.

With the signing of the 1982 Defense Authorization Act multiyear contracting again became a possible procurement strategy.

> The Congress finds that in order to ensure national defense preparedness, to conserve fiscal resources, and to enhance defense production capability, it is in the interest of the United States to acquire property and services for the Department of Defense in the most timely, economic and efficient manner. It is therefore the policy of the Congress that services and property (including weapon systems and associated items) for the Department of Defense be acquired by any kind of contract, other than cost-plus-percentage-of-cost contracts, but including multiyear contracts, that will promote the interests of the United States. Further, it is the policy of the Congress that such contracts, when practicable, provide for the purchase of property at items and in quantities that will result in reduced costs to the Government and provide incentives to contractors to improve productivity through investment in capital facilities, equipment, and advanced technology. It is also the policy of the Congress that contacts for advanced procurement of components, parts and materials necessary for manufacture of for logistics support of a weapon system should, if feasible and practicable, be entered into in a manner to achieve economic-lot purchases and more efficient production rates. [Ref. 1]

The Defense Authorization Act of 1982 authorized the following changes:

1. Raised the cancellation ceiling to $100 million;
2. Required the notification of Congress thirty days in advance of entering into a multiyear contract with a cancellation ceiling in excess of $100 million;
3. Allows inclusion of recurring and nonrecurring costs in the cancellation provisions;

4. Allows the use of any kind of contract, except cost-plus-a-percentage-of-cost;
5. Provides a clear authorization for the advance procurement of components, parts and materials in order to achieve economic quantity lot purchases and more efficient production rates;
6. Provides a maximum term of five program years for multiyear contracts;
7. Identifies possible cancellation funding sources as:
    a. appropriations originally available for the performance of the contract concerned;
    b. appropriations currently available for procurement of the type of property concerned, and not otherwise obligated; or
    c. funds appropriated for those payments. [Ref. 30: p. 7]

In 1983, the Presidential Private Sector Survey by the Grace Commission advocated greater use of multiyear procurement and stated that DoD might save as much as $3 billion over the next several years with more aggressive use of multiyear procurement. [Ref. 31: p. 12]

Throughout the 1980's Congress increasingly emphasized multiyear procurement savings requirements.

- FY 1983 House Appropriations Committee Report - No specified savings requirement, but DoD justification must identify savings at a discounted rate.

- FY 1984 Appropriations Conference Report - No multiyear contract should be awarded if savings compared to annual contracts at the time of contract award are less than those estimated in the budget submission.
- FY 1986 Authorization Act - Authority to enter a multiyear contract is denied if it costs more than 90% of estimated annual contract costs.
- FY 1987 Authorization Act - Authority to enter a multiyear contract is denied if it costs more than 88% of estimated annual contract costs.
- FY 1989 Authorization Act - Multiyear contract must achieve 10% savings over the current negotiated contract, adjusted for changes in inflation and quantity of weapons to be purchased; or, 12% over the costs of annual contracts if no recent contract experience exists. [Ref. 32: p. 16]

With increased congressional requirements on multiyear procurement programs, there was growing concern in DoD that multiyear procurement was no longer a viable acquisition strategy. Therefore, in 1990, DoD proposed that the 10% savings threshold be replaced by a requirement that multiyear candidates demonstrate substantial savings of the total anticipated costs of carrying out the program through annual contracts. This proposal was accepted and included inn the FY 91 National Defense Authorization Act. [Ref. 32: p. 17]

Table 1 displays the savings and percentage savings for the current/proposed DoD multiyear procurement initiatives.

Program	Savings (in millions)	% Savings	Period of MYP
120mm Tank Round, all types	137.0	11.0	94-98
Global Positioning Satellite (GPS)	30.3	11.0	96-98
M1A2 Tank Upgrade	236.0	13.5	96-00
Longbow Apache Airframe	131.8	7.6	96-00
Javelin (AAWS-M)	102.4	11.6	97-00
Army Tactical Missile System	35.1	9.0	97-01
DDG-51 Destroyer	788.0	6.4	98-01
C-17 Aircraft:			
Airframe	834.8	5.5	97-03
Engine	175.6	8.7	97-03
Longbow Apache Fire Control Radar	79.4	13.5	98-03
Longbow Hellfire Missile	133.8	8.9	99-03

Table 1. Savings for the current/proposed DoD multiyear procurement initiatives

B. DESCRIPTION OF MULTIYEAR PROCUREMENT

Multiyear Procurement is a method of contracting which covers more than one year's but not in excess of five year's requirements. A multiyear contract is an alternative to a series of annual contracts in which the end items are procured one year at a time. Total contract quantities and annual quantities are planned for a particular level and type of funding as displayed in a current five year development plan. Each program year is

annually budgeted and funded and, at the time of award, funds need only to have been appropriated for the first year. The contractor is protected against loss resulting from cancellation by contract provisions which allow reimbursement of costs included in the cancellation ceiling. [Ref. 2: p. 17.102-3]

The Department of Defense has the authority to enter into the following multiyear contracts:

1. A multiyear contract for the purchase of a weapon system, items and services associated with a weapon system, and logistics support for a weapon system.

2. A multiyear contract for advance procurement of components, parts, and materials necessary to the manufacture of a weapon system, including a multiyear contract for such advance procurement that is entered into in order to achieve economic-lot purchases and more efficient production rates. [Ref. 14: 2306b(h)]

Approval authority for a major weapon system program to engage in a multiyear procurement strategy rests with Congress. Potential candidates are usually identified during the services' Program Objective Memorandum (POM) process. A detailed justification package supporting the applicability of each candidate is prepared and submitted with the POM. After review and acceptance by the Service Command and DoD, the package becomes part of the President's Budget submission to Congress. Congressional approval in an authorization Act signifies a program's eligibility for multiyear procurement. Prior to contract award, the proposed multiyear savings upon

which Congress based its eligibility decision must be validated by actual contractor proposals. [Ref. 3: p.3]

There are two basic types of multiyear procurement:

Classic multiyear procurement - With classic multiyear procurement, the entire contract amount would be proposed in the President's Budget. Funds for the first year's requirements would be requested in the next fiscal years budget. The funds for subsequent years production would be requested in the corresponding fiscal years. Congress is not required to appropriate the funds for the subsequent years, but they would have to pay a significant cancellation charge if they do not.

Expanded multiyear procurement - The use of expanded multiyear procurement allows for expanded advance buys. An expanded advance buy is the acquisition of out-year materials in economic order quantities to obtain lot buys at a lower price. Economies of scale are achieved by combining the production requirements for the entire contract. The contractor can place an order for the quantities required for all items to be produced in the contract, instead of ordering annual requirements several times. This also allows the contractor to make longer production runs further increasing efficiency. The cancellation ceiling for expanded multiyear procurement is larger. The ceiling includes the expanded advance buy along with the other charges associated with the classic multiyear procurement.

C. ADVANTAGES OF MULTIYEAR PROCUREMENT

There are eight objectives of multiyear procurement listed in FAR Part 17.102-3 which can be viewed as beneficial. Use of multiyear contracting is encouraged to take advantage of one or more of these objectives:

1. Lower costs: By funding economic lot buys, multiyear procurement frees manufacturers from having to make smaller, more costly piecemeal buys and thus promises to reduce the cost of mature, low-risk programs. The GAO found that 75% of savings on one major weapon system was due to economies in vendor procurement. [Ref. 4: p. a-6]

2. Enhancement of standardization. Costs are saved by a greater degree of standardization of parts and manufacturing routines. A large portion of the cost of manufacturing results from having to create and set up unique production stands and jigs. Multiyear's greater time should make it possible to consider using either existing manufacturing routines and tools or integrating items into current ones. Instead of creating new routines, longer planning times should allow greater flexibility. This in turn should promote greater standardization to cut costs and spread overhead expenses. One study conducted in 1994 found that 93% of those surveyed agreed that multiyear procurement increased contractor standardization of parts and manufacturing. [Ref. 16: p. 104)

3. Reduction of administrative burden in the placement and administration of contracts: Costs are saved by the processing one multiyear contract instead of several

annual contracts. Fewer statement of works are prepared, proposals analyzed, and contracts prepared and negotiated. This not only saves costs but frees up resources during a time of government downsizing.

4. Substantial continuity of production or performance, thus avoiding annual startup costs, pre-production testing costs, make-ready expenses, and phaseout costs: Multiyear Procurement increases the predictability of demand over the life of the contract, allowing the contractor to organize the production more efficiently. More efficient production allows the contractor to offer the government a lower price.

5. Stabilization of contractor work forces: The reduced costs associated with learning curves are further enhanced by retaining a highly skilled work force over a longer period. The GAO found increased worker familiarity with productive tasks and greater efficiency in its analysis of the Army's Multiple Launch Rocket System multiyear contract. [Ref. 5: p. 9]

6. Avoidance of the need for establishing and "proving out" quality control techniques and procedures for a new contractor each year: The government will have to "prove out" the contractors quality control techniques and procedures only once at the beginning of the multiyear contract. Once the contractor is certified to the level of inspection required the government needs to take a much less detailed look in the subsequent years. A succession of annual contracts could potentially entail a detailed "proving out" be performed each year with a new contractor.

7. Broadening the competitive base with opportunity for participation by firms not

otherwise willing or able to compete for lesser quantities, particularly in cases involving high startup costs: Provide incentives to contractors to improve productivity through investment in capital facilities, equipment, and advanced technology: Multiyear procurement guarantees a contractor greater coverage for risks in making investments in capital equipment than an annual procurement because they can go to creditors with a signed contract covering several years instead of one. [Ref. 6: p. 1188]

8. Provide incentives to contractors to improve productivity through investment in capital facilities, equipment, and advanced technology.

Contractors are further encouraged to modernize their plants because they can amortize investment costs over a two to five year period instead of a single year. The General Accounting Office found that 81% of contractors surveyed reported a multiyear contract influenced their decisions to make a capital investment. [Ref. 17: p. 2]

A representative of a major military manufacturer made the following comment on multiyear's real value:

> Multiyear contracting encourages capital investment far beyond what annual contracting does. Capital investment is the single greatest influence on productivity. All U.S. industries are working to increase their competitiveness in world markets as free trade expands. Higher productivity in Defense is critically important. Yet the real emphasis is absent as evidenced by the reduced use of multiyear contracting over the past few years. [Ref. 16: p. 126]

The benefits and advantages of multiyear prime contracts may frequently be increased by multiyear subcontracts under the prime contracts. While prime contractors should be encouraged to employ multiyear subcontracts, the choice of the appropriate subcontract

types remains with the prime contractor who should employ multiyear subcontracts only when in its judgment:

1. The subcontract item or service is of stable design and specification;
2. The quantity required is reasonably firm and continuing;
3. Effective competition may be enhanced; and
4. Multiyear subcontracts can reasonably be expected to result in reduced prices.

Multiyear subcontracts may be particularly desirable under a multiyear prime contract awarded without full and open competition, since effective competition at the subcontract level may be enhanced and the attendant cost reductions realized by the prime contractor and the government. [Ref. 2: p. 17.104-2]

D. DISADVANTAGES OF MULTIYEAR PROCUREMENT

Although multiyear procurement can benefit the government by saving money and improving contractor productivity, it can also entail certain risks, such as increased costs to the government, should a multiyear contract be changed or terminated. A particular disadvantage of multiyear contracts is that they decrease annual budget flexibility because the Congress and DoD commit themselves to fund such contracts through completion or pay any contract cancellation charges, which may be substantial. If DoD's procurement budget is reduced significantly and multiyear contracts are maintained, programs not under multiyear contracts would have to be cut disproportionately. Multiyear contracts may "lock-in" the Department of Defense to future expenditures, but as one Air Force General

stated: "It does lock you in, but that's the whole idea behind multiyear procurement. You get stability in a program, and you only select candidates you're convinced you want to pursue on a long-term basis." [Ref. 7: p. 117]

Multiyear procurement requires a large up front (TOA) total obligation authority for the first year. The services must fully fund the annual requirements of the multiyear contract. This large up front funding may limit the implementation of multiyear procurement by squeezing out other competing systems the DoD desires.

Perhaps the biggest disadvantage of multiyear procurement is the termination liability the Government faces if it cancels a multiyear contract early in its life. For example, on an aircraft multiyear contract there is a cancellation ceiling negotiated above the actual value of the aircraft for the first year covering the contractor's purchases of materials and subsystems for future years' aircraft. Scheduling these expenses forward is one reason multiyear contracts save money, but in exchange the Government takes on a liability it must pay in the event of contract cancellation. [Ref. 8: p. 7]

E. CRITERIA FOR USE OF MULTIYEAR CONTRACTING

Multiyear contracting may be used when one or more of the objectives in FAR Part 17.102-3 can be met, and the following criteria are present:

1. The use of such a contract will result in reduced total costs under the contract.

2. The minimum need for the item to be purchased is expected to remain substantially unchanged during the contemplated contract period in terms of production rate, acquisition rate, and total quantities.
3. There is a reasonable expectation that throughout the contemplated contract period the department or agency will request funding for the contract at the level required to avoid contract cancellation.
4. There is a stable design for the item to be acquired and the technical risks associated with such items are not excessive.
5. The estimates of both the cost of the contract and the anticipated cost avoidance through the use of a multiyear contract are realistic.[Ref. 2: p. 17.102-3]

Criterion 1 must describe the benefit of multiyear procurement over annual buy procurement. The FY91 National Defense Authorization Act states that multiyear candidates demonstrate "substantial savings of the total anticipated costs of carrying out the program through annual contracts." Criteria 2 through 5 must convince approval authorities the program is sufficiently stable and understood to warrant multiyear procurement use.

The complexity of the system will largely determine the year in which multiyear procurement should begin. For systems well within the current state of technology, the first production run might be the right starting point, provided there were no major problems during full-scale development. Systems on the cutting edge of technology are

generally not appropriate for the multiyear approach until the system's design has stabilized, usually after two or three production runs. [Ref. 10: p. 26]

The GAO made the following comment regarding the Javelin anti-armor weapon system's design stability:

> Javelin's design has been in transition since it was operationally tested in 1993. Each production of Javelin through the first year of full-rate production will produce a different configuration of the system. The Army has not completed technical and operational tests of Javelin with all design changes incorporated. In addition, early tests have shown that some changes require additional redesign. By delaying the multiyear contract until the Army has successfully tested Javelin's design and the design's stability is demonstrated by production, the government can reduce the risk that additional redesign will reduce or eliminate multiyear cost savings. [Ref. 11: p. 19]

Annual DoD Authorization and Appropriations Acts and 10 U.S.C. 2306(h) have established the following additional criteria:

1. The use of such a contract will promote the national security of the United States.
2. The contract provides for a production rate at not less than minimum economic production rates given the existing tooling and facilities

F. CONTRACT PRICING TECHNIQUES

Because of the long-term impact on prices of multiyear contracts, two pricing techniques are often used:

1. Level Unit Pricing

Level unit pricing is the preferred method for arriving at a per unit cost since it forces contractors to assume the risk of price fluctuations in the out years of the contract. Conceptually, level unit pricing results in all contract costs, including the amounts

projected for inflation, being amortized over the life of a contract resulting in the same unit price appearing for all years of the contract. This has a tendency to either over or under inflate actual costs since contractor costs are based on estimates. The longer the contract runs the more pronounced the effect until a price projected five years into the future may have little relationship to actual costs incurred. Variable unit pricing may be used but only if the head of the contracting activity or a designee, feels there is a valid method for evaluation of offers. [Ref. 26: p. 19]

2. Economic Price Adjustment

The contracting officer is encouraged to use an economic price adjustment clause when the labor and material costs are likely to fluctuate during the period of performance. A multiyear contract with economic price adjustment provides for upward and downward revision of the stated contract price upon the occurrence of specified contingencies. Economic price adjustments are of three general types:

1. Adjustments based on established prices. These price adjustments are based on increases or decreases from an agreed-upon level in published or otherwise established prices of specific items or the contract end items.
2. Adjustments based on actual costs of labor or material. These price adjustments are based on increases or decreases in specified costs of labor or material that the contractor actually experiences during contract performance.

3. Adjustments based on cost indexes of labor or material. These price adjustments are based on increases or decreases in labor or material cost standards or indexes that are specifically identified in the contract. [Ref. 2: p. 16.203-1]

G. CANCELLATION OF MULTIYEAR CONTRACTS

Although the government commits itself to a contract extending beyond the current fiscal year, the funding is still appropriated by congress annually. Congress has reserved themselves the right to "cancel" the contract if they decide not to appropriate funds for subsequent years. Cancellation results when the contracting officer (a) notifies the contractor of nonavailability of funds for contract performance for any subsequent program year, or (b) fails to notify the contractor that funds are available for performance of the succeeding program year requirement. [Ref. 2: p. 17.101]

All program years except the first are subject to cancellation. The contracting officer must establish a cancellation ceiling for each program year subject to cancellation. Congressional legislation in the DoD Authorization Act of 1982 set the maximum cancellation ceiling at $100 million. Congress must receive a thirty days notice for multiyear contracts with ceilings above $100 million. The cancellation charge need not be funded before contract award.

The amount which is actually paid to the contractor upon settlement for unrecovered costs (which can only be equal to or less than the ceiling) is referred to as the cancellation charge. The cancellation charge is intended to cover:

- costs reasonably necessary for production which would have been equitably amortized in the unit prices for the entire multiyear contract period, but which, because of the cancellation, are not amortized;
- all unpaid labor, material and other costs incurred by the contractor or its subcontractors for production of the canceled items required by the expanded advanced buy;
- cost impact on non-canceled items (i.e., subcontract price increases resulting from quantity reduction); and
- a reasonable profit on such incurred costs. [Ref. 28: p. 30]

The cancellation ceiling is composed of nonrecurring and recurring costs. Nonrecurring costs are those production costs which are generally incurred on a one time basis and include such costs as capital investment, plant or equipment relocation, plant rearrangement, special tooling and special test equipment, preproduction engineering, initial spoilage and rework, and specialized work force training. They shall not include any costs of labor or materials, or other expenses, which might be incurred for performance of subsequent program year requirements. The total estimate of the above costs must then be compared with the best estimate of the contract cost to arrive at a reasonable percentage or dollar figure. This cancellation ceiling will be reduced each program year in direct proportion to the remaining requirements subject to cancellation. For example, consider that the total nonrecurring costs are estimated at ten percent of the

total multiyear price, and the percentages for each of the program-year requirements for five years are:

1. 30% in the first year,
2. 30% in the second,
3. 20% in the third,
4. 10% in the fourth, and
5. 10% in the fifth.

The cancellation percentages, after deducting three percent for the first program year, would be seven, four, two, and one percent of the total price applicable to the second, third, fourth, and fifth program years, respectively. [Ref. 2: p. 17.103-1]

While multiyear contracts cancellation ceilings generally cover nonrecurring costs they can also give permission for the contractor to recoup some recurring costs in the event of contract cancellation. Recurring costs are defined as production costs which vary with the quantity of items produced, such as labor and materials. Examples of recurring costs include advance orders for long lead-time parts and Economic Order Quantities of materials. [Ref. 12] If the contract is canceled, the advance EOQ outyear components will probably already have been purchased or made for the end items being canceled.

The services view full funding cancellation ceilings as a disincentive to use multiyear contracting. Military and OSD officials responsible for the day to day management of weapons acquisition, feels that the criteria for approving multiyear contracts are stringent enough so as to permit only contracts with a very slim chance of cancellation to go

through. Thus, they believe the additional funding needed for the EOQ items added to any multiyear contract for cancellation is unnecessary. The service procurement officers fear the funding needed for multiyear cancellation ceilings, especially in the first year, may crowd other important weapon programs out of their budget. [Ref. 8: p. 24]

H. MULTIYEAR FUNDING

Contract funding is the process of committing, or reserving, available funds for a specific purpose. It authorizes the incurrence of an obligation. For multiyear contracts, DoD does not fully fund the entire program requirements being purchased. Instead, multiyear requirements are funded one year at a time with annual appropriations. At the time the contract is awarded, funds are appropriated for the first year only. When funds are appropriated in the subsequent years, they are obligated when the contracting officer executes a contract modification for the given program year's requirements. The contractor is not required to proceed until funds are appropriated and the contractor has been informed that the funds are available.

The funding of multiyear contracts has two components: the end items being procured and the cancellation ceiling. (1) The amount required to fully fund the end item requirements in a given fiscal year is the total end item cost less any portion of the end item cost previously obligated for advance procurement. (2) The cancellation ceiling consists of the estimated termination liability created by the advance (EOQ) economic order quantity procurement. (i.e., the recurring costs) and the nonrecurring costs.

DoD Appropriations Acts have directed that the EOQ advance procurement must be funded to at least the limits of the Government's liability. This means the recurring portion of the cancellation ceiling must be funded. DoD Directive (DoDD) 7200.4, Full Funding of DoD Procurement Programs, also requires the budget to cover at least the termination liability of the EOQ multiyear contract since it is DoD's policy not to create unfunded contract liabilities for EOQ procurements associated with multiyear contracts. Two exceptions to this policy are: (1) if it would be more effective to fully fund (see full funding in the glossary) the advance EOQ procurements, or (2) if approval from Congress and/or the Assistant Secretary of Defense Comptroller (ASD(C)) is granted to include the costs in an unfunded cancellation ceiling. When portions of the cancellation ceiling are not funded, an unfunded contingent liability is created. If the unfunded contingent liability exceeds $20 million, Congress must receive a thirty day notification prior to contract award. The nonrecurring portion of the total cancellation ceiling is not attributable to EOQ requirements. Flexibility lies with the decision maker in whether or not to fund the nonrecurring portion of the cancellation ceiling; however, the program manager should refer to the current funding policy of their particular service, for any changes in this area. [Ref. 18: 43-11]

I. METHOD OF CONTRACTING

1. Contract Type

Multiyear contracting is compatible with sealed bidding, including two-step sealed bidding, and negotiated procurement, so the nature of the requirement should govern the

selection of the method of contracting. [Ref. 2: p. 17.103-1] Resulting contracts may only be firm-fixed price, fixed-price with economic price adjustment, or fixed-price incentive.

Given the longer performance period associated with multiyear acquisition, consideration in pricing contracts should be given to the use of economic price adjustment terms, profit objectives comparable with risk (i.e., greater profit for greater risk), and financing arrangements which reflect contractor cash flow requirements (i.e. progress payments.) [Ref. 2: p. 17.102-3]

2. Special Clauses

While contract types are used to allocate risk, special clauses can address more specific risks. The following types of clauses are of particular interest in multiyear procurement contracting.

1. Economic Price Adjustment (EPA) clauses establish the index used to adjust input prices for determining the cost base of the contract. The more inflationary the times, the more important these clauses become.

2. Termination clauses allow the contractor to recover incurred production costs for the current contract year. The government can initiate termination for cause at any time during a contract. Termination clauses are found in all contracts. Do not terminate a multiyear contract under a program approved by Congress without providing a ten-day advance notification to the Committees on Appropriations and Armed Services of the House of Representatives and the Senate. [Ref. 13: p. 217.103-1]

3. Cancellation clauses allow the contractor to recover out-year production costs that have been incurred in the current year. They are found only in multiyear procurement contracts and usually cover the unrecovered cost of the economic order quantity (EOQ). They only apply in the event that Congress does not appropriate funds for the out-years of a program and can only be initiated at the beginning of a contract year. If a multiyear procurement contract is canceled, then the termination clause covers the incurred cost for current year production and the cancellation clause covers the incurred cost for out-year production. Together they should cover the contractor's total incurred production costs.

4. Indemnification clauses allow the contractor to recover capital, facilities, and idle capacity (nonproduction) costs when triggered by specific events, such as termination or cancellation. In a multiyear contract, a capitalization schedule for payment is negotiated in advance that determines how much the government must pay the contractor in case indemnification is triggered. This coverage encourages the contractor to invest in cost-reducing capital and facilities improvements, the costs of which cannot be recovered under a single year of production. If a contract is ended and the government pays the indemnification fees, the contractor turns over the property indemnified to the government. Precontractual negotiations determine what capital investments are included. The contractor chooses which items it would sell and include in the clause and which items it would keep and not include in the clause. This type of coverage is separate from any monetary incentives the government offers for technical or production improvements.

5. Engineering change proposals (ECPs) allow the government to change the technical specifications of the weapon system as appropriate. ECP clauses contain language that allows for the renegotiation of the contract cost base in this event. It protects the contractor from cost growth imposed because of government actions to improve the system.

6. Warranties define who bears the risk of poor performance or operational The more uncertain the technical performance at the time of the contract, the more limited the warranty will be, so that the government bears the risk of nonperformance and the costs of improving performance through ECP clauses. Standard warranty clauses cover material and workmanship, design conformance, and minimal performance standards. Contractors limit their liability by specified dollar ceilings on their warranties, delayed specification of the performance measures, reduced time coverage, or refusing to warrant specific technical performances. [Ref. 15: p. 31]

7. Notification clauses require the prime contractor to notify the government prior to making changes in his plans to buy advance materials.

8. Variations in Quantity. In some cases the contractor may be able to accommodate small changes in the multiyear quantity, either on a year-to-year basis or on the total quantity. This would provide the Government some relief in case their requirements were to increase or decrease in the outyears. The allowable variations in quantity will be determined at the time of contract negotiation.

9. Contractor Cost Performance Reporting. Due to the unique requirements of multiyear procurement (i.e., level unit pricing), special tailoring of cost reports will probably be necessary. An earned value management clause tailored to meet the unique requirements of multiyear procurement can be included in the contract. For some types of cost data it may be sufficient to have the contractor maintain the data and have it available for government review upon request. Cost data are useful in evaluating future contractor proposals, or in evaluating changes, should they occur. [Ref. 27: p. 59]

10. Limitation of Price and Contractor Obligations clause states how the multiyear contract will be funded and priced. It says the amount of funds available at award is sufficient to cover production of only the first year quantities. The total contract price at award is the price for only the first year requirements. When funds become available for quantities in the next fiscal year, the contracting officer will add those funds to the contract at that time and add the price for that year's effort to the total contract price. This procedure applies for each successive year until the last year of the Multiyear procurement is fully funded. At any time after award, the contractor is obligated only to perform what has been funded on the contract to date. The yearly funds available and contact prices are listed in a special contract provision in section H (special provisions) of the contract. [Ref. 28: p. 27]

J. SUMMARY

This chapter provides the reader with the background and concepts of multiyear procurement as well as explains those items which are unique to multiyear procurement. This chapter gives the reader the background knowledge necessary to use chapter three for the implementation of multiyear procurement.

III. THE MULTIYEAR PROCUREMENT PROCESS

A. INTRODUCTION

Multiyear procurements, under certain circumstances, can provide a number of benefits to the government. The primary benefit is savings in the cost of procurement of defense systems. The best multiyear procurement candidates are those whose production costs are known and whose future requirements and configuration are stable. Approval of a multiyear procurement candidate by the Navy, OSD, and the Congress requires detailed documentation of expected cost-savings; budget availability for multiyear procurements; and at least some political support. It must be evident that initial cost savings estimates are realistic and will actually be achieved in the final award of a multiyear contract. In order to ensure this, initial contact with the contractor must be made by the Government, and continuing close communications must be maintained. Contractor cost estimates must be generated on both an annual and a multiyear basis, and should include vendor and subcontractor inputs. Critical examinations of costs and sources of cost savings should be made by the Government, and, although it is not a requirement, disagreements with the contractor should be discussed and resolved, if possible. [Ref. 20: p. 14]

When at all possible, it will be desirable to obtain competitive multiyear procurement proposals from more than one vendor. Experience with the multiyear competitive procurement show that General Dynamics reduced its unit price for F-16 aircraft when

threatened by competition from the Northrop F-20 for special mission purposes. [Ref. 20: p. 14]

While Chapter II described the background and concepts of multiyear procurement, Chapter III describes the process for submitting the multiyear procurement candidate for approval. Detailed descriptions of relevant data are presented in the appendices.

B. GENERAL PROCEDURES FOR PROCESSING A MULTIYEAR CONTRACT

While this chapter deals in detail with the subject later on, the following is a good summary description of the multiyear procurement process:

1. Conduct multiyear feasibility study, evaluate possible buy profiles, and develop savings estimates using contractor inputs.
2. Document the study in a multiyear exhibit justification package and prepare initial multiyear findings.
3. Submit the multiyear exhibit package as a budget input to obtain up-front funds for Economic Order Quantity (EOQ) material buys.
4. Present the initial multiyear findings package to the appropriate authority for approval to solicit dual multiyear/annual buy proposals.
5. Solicit and obtain multiyear/annual buy firm proposals.
6. Validate initial estimated costs and savings by analyzing differences between multiyear and annual buy proposals and then comparing proposals to original estimates; document them in a validation findings package.

7. Submit documentation for appropriate reporting and approvals.
8. Award the multiyear contract. The contract may be unpriced in the form of an expanded advance but or letter contract, or it may be a firm definitized contract. [Ref. 19]

C. FEASIBILITY STUDY

The first step is to conduct a feasibility study to determine if the program is suitable for multiyear procurement. It takes place prior to the formal solicitation process. The primary purpose of the feasibility study is to evaluate the program against the multiyear criteria described in Chapter 2. The output of the study is the initial finding supported by a justification package consisting of several multiyear procurement exhibits (see appendix A). These exhibits should demonstrate the program satisfies all the requirements of the multiyear criteria. Further detail regarding the justification package is given in section E of this chapter. If multiyear procurement appears to result in cost savings, the program manager recommends use of a multiyear contract in the (POM) Program Objective Memorandum. [Ref. 18: 43-7]

D. ESTIMATING COST REDUCTIONS

Proposed cost reductions are critical to the approval of a multiyear procurement contract. A prime contractor must estimate its costs of production under two alternative proposals (these need only be rough order of magnitude estimates.) The first estimate is

based on a series of annual contracts for the period in question. The second estimate is based on a multiyear contract for the same period. The funding profile of a multiyear contract is front-loaded: expenditures and total obligation authority (TOA) in the first year or two are normally greater than they would be if annual contracting were used, reflecting initial EOQ purchases and extended advanced buys for inflation avoidance. This is shown in appendix A where the estimated TOA budget requirements of the DDG-51 are presented on both an annual and a multiyear basis for FY 96 to FY 01. The government monitors the contractor's estimation process and plays an active role in the validation of cost reductions. A should cost analysis can be used to assist in the analysis of the contractor's savings submissions. For more information about should cost analysis see FAR Part 15.810. The difference in cost between the multiyear and annual buy estimates is the cost reduction associated with a multiyear procurement contract. This difference in cost is used to decide whether a program should be submitted to higher levels as a multiyear procurement contract candidate. Mr. T. Kirby of Vitro Corporation assisted in the DDG-51 multiyear procurement documentation. During an interview with Mr. T. Kirby he stated: "There is no official guidance on a specific savings percentage but historically Congress expected a 10 percent savings from multiyear procurement."

While both parties want sufficient multiyear procurement cost reductions to justify the use of multiyear procurement, the government must exercise caution because they are responsible for ensuring the cost estimates are as accurate as possible. All of these cost estimates occur early in the program; actual costs will not be known for years

after the multiyear procurement contracting decision is made. Cost estimation remains an imprecise activity that must be used with great care

1. Key Places to Look for Cost Reductions

In AFSC Pamphlet 800-55, the Air Force expects the major cost reductions from multiyear procurement contracts to come from inflation avoidance, vendor procurement, and manufacturing. These areas in fact yielded the largest expected cost reductions reported in the cases studied. [Ref. 15: p. 58]

Table 2 shows the sources of savings for six multiyear contract candidates in 1991, as estimated by DoD. [Ref. 25: p. 10]

Then-year dollars in millions		
	Total savings	Percent Savings
Vendor procurement	$398.7	45.6
Manufacturing	343.3	39.2
Inflation	100.3	11.5
Other	32.4	3.7
Total	$874.7	100.0

Table 2. Sources of savings for six multiyear contract candidates in 1991

a. Inflation Avoidance

Moving from a series of annual contracts to a multiyear contract allows the contractor to change the timing of their supply purchases. Using EOQ purchases, the contractor tends to procure larger lot sizes and they tend to do this earlier in the cycle than under a series of annual contracts. As a result of inflation, these earlier procurements are at a lower cost than would be under an annual contract. Caution should be exercised when calculating these cost savings. Two factors tend to offset the reductions: 1) the cost of borrowing the funds required to fund these procurements and 2) the opportunity costs associated with the use of these funds. [Ref. 15: p. 44]

b. Vendor Procurement

Under multiyear contracts, contractors purchase supplies in larger lot sizes (EOQ) than those justified under annual contracts. As a result, prime contractors can reduce the price they pay for these same supplies. Sikorsky reported that vendor procurement costs accounts for 75 to 90 percent of cost savings attributable to multiyear contracts. Sikorsky also reported that vendor procurement costs (including prime contractor materials overhead) constitutes about two-thirds of total airframe contract costs. [Ref. 21:p. 2-3]

c. Manufacturing

Product engineering can yield reductions by improving the design of a system and the means of producing it or finding more efficient parts and materials for manufacturing components used in the system. Contractors expect only fabrication activities to yield this kind of cost reduction. Fabrication activities involved batch operations that lend

themselves to cost reductions from rescheduling in a way that assembly activities do not. [Ref. 15: p. 48] Multiple years allow better scheduling and use of production capacity. There is no need to produce items in a rigid sequence if this is not the best method to save costs or take advantage of other efficiencies. [Ref. 16: p. 31]

Attention should be given to overhead costs when calculating cost reductions for the multiyear contract. The savings caused by the multiyear contract arrangement can cause overhead costs to either increase or decrease. For example, Rockwell expected multiyear procurement contracting to increase its overhead costs for the B-1B. Because the B-1B was their primary activity at the time, this would require them to spread overhead expenses over a smaller base, forcing them to raise their overhead rate. On the other hand, General Dynamics expected multiyear procurement contracting to increase international confidence in the F-16 program, there by increasing international sales. This would increase the business base enough for General Dynamics to reduce its overhead rate. [Ref. 15: p. 51]

E. MULTIYEAR JUSTIFICATION PACKAGE

When a multiyear contract is initiated, a strategic decision is made and future sessions of Congress are committed to appropriating funds in support of outyear requirements. The requirement for the justification package was established in the Department of Defense Appropriations Bill of 1982: The House of Representatives Appropriations

Committee (HAC) will require substantial supporting documentation to justify multiyear contracting for major systems, to support claims regarding:

a. benefits derived from the MYP

b. stability or requirements and funding profile; and

c. degree of cost confidence; and

d. degree of design stability. [Ref. 23]

Through the Planning, Programming, and Budgeting System (PPBS) process, Congress gives permission for a multiyear procurement strategy to be pursued and requires a multiyear justification package to support its decision. The multiyear justification package consists of several multiyear procurement exhibits and is the output of the feasibility study. The multiyear justification package accompanies the President's Budget so Congress can consider the planned multiyear procurement along with the overall budget. [Ref. 18: 43-8]

The multiyear justification package consists of 5 exhibits. Exhibits MYP-1 through MYP-5 should be submitted for all multiyear candidate systems for which any of the following is true:

- The anticipated multiyear procurement contract is $500 million or greater;
- Requires a cancellation ceiling in excess of $100 million;
- There are economic order quantity (EOQ) advance procurements in excess of $20 million in any one year;
- The will be an unfunded contingent liability in excess of $20 million in any one

year;

- The procurement quantities of a previously approved MYP have been adjusted. [Ref. 23: p. 4-5]

Exhibit MYP-1, Multiyear Procurement Criteria, establishes that the weapon system meets the multiyear procurement criteria delineated in FAR Part 17.103-1(a). Narrative must be included fully explaining how your multiyear procurement will fulfill these criteria. MYP-1 also includes narrative regarding the impact on the industrial base. Congress is concerned about the impact of multiyear procurements on the defense industrial base. The benefits originally promised for multiyear procurements included enhanced competition and capital investment, stability of employment, and increased vendor competence and efficiency. Quantitative data supporting these claims should be presented whenever possible. [Ref. 20: p. 47] The section in MYP-1 titled Savings and Cost Avoidance, identifies the amount and sources of multiyear savings and explains what makes the savings possible. Year by year multiyear cost savings, in then year dollars, are presented in this exhibit. Total savings, by source, are also presented, with an explanation of why it occurs. Savings due to inflation avoidance should be explained explicitly. This section answers the decision maker's questions about the dependability of the estimate of savings.

MYP-2, Acquisition Strategy comparative Summary, provides a comparative summary of the annual buy and the multiyear alternatives. A separate summary should be included for each multiyear contract included in the budget line item. Total contract price, cancellation ceiling, and multiyear procurement cost savings should be presented in then

year dollars. Risk factors are also addressed in this exhibit including requirement, funding stability, configuration stability, and cost confidence. Each risk factor should be categorized as low, medium or high.

Exhibit MYP-3, Total Program Funding Plan, compares the total amount needed from a given appropriation to execute the total program for both the annual buy alternative and the multiyear alternative. It presents the (TOA) total obligation authority requirements and estimated outlays, by year, for both annual and multiyear contracts, presented in then-year dollars. This exhibit provides an estimate of the savings to be realized from using the multiyear procurement approach and shows the advance funds required to execute the contract if EOQ purchasing is planned. This exhibit identifies the end item quantities by FY and the amount of funds required in advance for each FY (advance procurement funds). For the annual buy proposal, these are the funds necessary to acquire long lead items. For the multiyear proposal, these are the funds necessary to purchase EOQ items in advance. The outlay portion of this exhibit informs Congress how much money will be paid out by the US Treasury each FY. [Ref. 18: p. 43-8] Its purpose is to illustrate the effects of the different levels of advance procurements in the two contracts on a year by year basis. [Ref. 20: p. 47] The total TOA difference on this exhibit will agree with the "Cost Avoidance over Annual" line on exhibit MYP-2.

Exhibit MYP-4, Contract Funding Plan, contains a comparison of the proposed annual buy and multiyear contracts along with the outlay pattern for both alternatives. It is

similar to exhibit MYP-3 except it represents the cost for a given contract, not the cost for the total program by FY.

Exhibit MYP-5, Present Value Analysis, presents yearly outlays on a year by year basis, in then year dollars; in constant, budget year dollars; and in present value. Present value is the value today of future cash flows, determined through application of the official inflation rates issued periodically by the Office of the Secretary of Defense (Comptroller). The projected multiyear savings must reflect the value of money associated with the accelerated expenditure of funds inherent in the first few years of multiyear contracts. In general, the effects of inflation cause money expended earlier to be worth more than the sum of money expended later. The guidance for the preparation of the present value analysis is contained in DoD Instruction 7041.3. [Ref. 18: p. 43-8]

The exhibit formats are presented in the DoD Financial Management Regulation, Volume 2B. A completed justification package for the DDG-51 program is located in appendix A.

F. ECONOMIC ORDER QUANTITY MATERIAL BUYS

EOQ effort must be funded to termination liability in an advance procurement line item. The preferred method in which an advance procurement line may be established is to submit the multiyear procurement candidate with the President's Budget in January of each year. For this to occur, the multiyear justification package should be developed and submitted with the service POM request in May of the preceding year. The full exhibit

package should be submitted in time to support the Budget Estimate Submission (BES). [Ref. 18: 43-9(6)] The timing sequence mirrors the timing for the whole multiyear contract and is demonstrated in Appendix B.

G. VALIDATION PROCESS

The contracting process begins with the review of the initial findings. Once the initial findings are approved the request for proposals or invitation for bids are issued. Offerors are required to submit two proposals: an annual buy proposal and a multiyear proposal. An analysis of the cost difference between the two proposals is performed by the program office to determine if the proposed cost savings from the multiyear procurement are similar to those of the initial finding. This is called the validation finding. If the savings are in line with the initial finding, contracting will continue negotiations of the multiyear contract. If multiyear savings determined in the validation finding do not justify pursuit of that procurement strategy, the annual buy contract may be negotiated. During Congressional committee hearings this guideline was established: "...no multiyear contract shall be awarded if the savings are less than in the budget justification material submitted to Congress." [Ref. 22: p.58] 10 United States Code (U.S.C.) 2306(h)(1) requires the validation process to include an estimate of the multiyear savings based on contract data rather than budgetary estimates before the multiyear contract can be awarded. Contract data includes proposals for both multiyear and annual buy alternatives, price negotiation memorandums, and the negotiated multiyear contract. [Ref. 14: 2306(h)(1)]

H. SAMPLE SCHEDULE AND LEVELS OF REVIEW/APPROVAL

SUGGESTED EVENT	COMPLETION
1. Program Manager's Initial Assessment	Jun FY1
2. Contractor's Initial Assessment (for sole source selection)	Jul
3. Government's Initial Assessment (for competitive situation)	Jul
4. Planning the Task of Obtaining the Supporting Rationale for MYP	Aug
5. Completion of a Study of MYP	Dec FY2
6. Analysis of the Study by the Intermediate Level Staff	Jan
7. Identification of Candidacy in the PPBS (POM)	Jan
8. Analysis by Head of Contracting Activity	Feb
9. Analysis by Service Headquarters	May
10. Analysis by Service Secretary	Jun
11. Analysis by Under Secretary of Defense (Acquisition & Technology), Director of Defense Procurement (USD(A&T)DP) and the Under Secretary of Defense (Comptroller) (Program/Budget) (USD(C)(P/B))	Aug
12. Identification of MYP in FYDP*	Aug
13. Release of RFPs	Sep

14. Receipt of Proposals	Dec FY3
15. Quick Evaluation of MYP (Validation)	Jan
16. Briefing to Head of Contracting Activity	Apr
17. Negotiations	Apr
18. Contract Award	Jun

*Identifying MYP as the method of procurement in the DoD approved FYDP would constitute approval for MYP unless the multiyear contract (1) required a cancellation ceiling of more than $100 million, (2) provided for economic order quantity purchases in excess of $20 million, or (3) included an unfunded contingent liability in excess of $20 million. Congressional notification is required for any of the three listed reasons. [Ref. 27: p. 67]

A chart displaying the multiyear timing process for the Defense Satellite Communication System Program, DSCS III is shown in appendix B. The Navy Multiyear Procurement Contract Certification Process is displayed in appendix C.

I. SUMMARY

This chapter is developed to sufficiently educate program managers for them to implement a multiyear procurement. Program managers must objectively evaluate their programs against the proper criteria, properly develop multiyear procurement savings estimations, and search for opportunities to use multiyear procurement contracts. It is also important to note that multiyear procurement is not exclusively for large weapon

systems. The benefits of multiyear procurement can be realized on contracts that include EOQ advance procurement of $20 million or less in any one year or includes an unfunded cancellation ceiling of $20 million or less. These smaller programs can use multiyear procurement with much less oversight which allows the decision to use or not to use multiyear procurement to be based on business interests, not political ones. [Ref. 33; p. 19]

IV. ISSUES IN MULTIYEAR PROCUREMENT

A. INTRODUCTION

There is a call for the increased use of multiyear procurement within the Department of Defense. Though not a panacea for all acquisition ills, multiyear procurement is a key component in any serious effort to improve the acquisition process. It offers excellent opportunities for effecting significant savings and strengthening the defense industrial base. [Ref. 10: p.23]

Long term business relationships are prevalent in the commercial sector and multiyear procurement is the government's answer to these long term relationships. While Government contracting is already burdensome with rules and regulations, multiyear procurement has additional unique requirements. These requirements generate unique issues for contracting personnel who use multiyear procurement. This chapter deals with some of those issues.

B. METHODOLOGY

The information in this chapter focuses on some of the issues users of multiyear procurement consider relevant. Questionnaires were sent to current and past users of multiyear procurement, both in Government and industry. The respondents were selected on the basis of there current and in depth experience of the multiyear procurement

process. This was determined by holding brief phone interviews with a representative from each office, during which I was assured that all recipients would be experienced. The responses received from the various commands were a combined effort of several experienced individuals within that office. The recipients of the questionnaires represent contracting, program management and finance. The following table displays the breakdown of responses based on the occupational background of the individuals who completed them.

RESPONDENT BACKGROUND	Number	% of Total
Air Force Program Management	4	20%
Navy Program Management	3	15%
Army Program Management	2	10%
Air Force Contracts	2	10%
Navy Contracts	3	15%
OSD Comptroller	1	05%
OSD Contract Policy	2	10%
Commercial Contractor	3	15%
Total	20	100%

Table 3. Breakdown of Questionnaire Respondents by Background

The data gathered is qualitative in nature based on responses generated from 3 questions.

The questionnaire was preceded by phone conversations with each prospective recipient to ensure that they would be encouraged to provide a response. Appendix E provides a copy of the survey questionnaire. E-mail was used for the dissemination and replies of the questionnaires.

C. LIMITATIONS AND ASSUMPTIONS

The study was limited to multiyear contracts for major weapon systems. Copies of eight questionnaires were sent to government offices and one copy was sent to a contractor facility. Seventeen responses were received from the Government and three responses were received from the contractor facility. Consequently, the results of the study primarily reflect the government's concerns.

The seventeen Government respondents do not represent all the multiyear programs currently existing. Due to the time constraint the researcher only selected the larger programs from each service to get different service perspectives. In order to get even a wider perspective respondents were selected in the areas of budget and contract policy at the OSD level.

As a result of phone interviews made with the perspective respondents prior to sending the questionnaire the following assumptions were made; (1) the respondents who received the questionnaires were qualified to provide the information for their organizations, (2) respondents provided unbiased and impartial answers as a result of keeping their identities confidential, and (3) the readers of this study are familiar with Government procurement practices and procedures.

D. ANALYSIS OF QUESTIONNAIRE RESPONSES

There were six issues identified by the respondents. The issues were drawn from all three questions in the questionnaire. The total responses associated with the following issues will not total to twenty since some respondents listed more than one issue.

1. **Issue**: The requirement that a multiyear procurement not exceed five years.

Response: Six of the respondents believe the five years allowed for multiyear procurement is insufficient. The long production times involved with complex weapon systems sometimes exceed five years. One of the respondent commands working on the C-17 program recently had to have special language written into the multiyear legislation allowing them to put a seven year program in place.

Commentary: The multiyear time frame of more than one year and not to exceed five years originated over thirty years ago. Since that time the weapon systems being purchased by the Department of Defense have realized a tremendous growth in complexity. As a result, the five year maximum for multiyear procurement has become inadequate for some programs.

While longer multiyear contracts provide greater budget stability to the contractor and program office, it also causes Congress to relinquish more power over the budget. Due to the cancellation ceilings involved with multiyear contracts, Congress is extremely reluctant to cancel these programs. Congress is concerned about the loss of programming flexibility. The Department of Defense position is that if a program meets stability of funding and requirements criteria, then loss of flexibility is acceptable. When a program

extends for seven years and the budget is dramatically cut in those later years, Congress has less flexibility in its decision of where to cut to meet the reduced budget. Congress has misgivings about both the weakened congressional oversight of military spending that results from multiyear procurement and the practice of committing future Congresses and administrations to current spending programs. [Ref. 10: p. 23] The researcher does not believe that Congress will increase the regulatory time frame from five to seven years, but will continue to look at each contract individually as they did with the C-17 program.

2. **Issue:** The policy of level unit pricing.

Response: Five of the respondents believe the requirement for level unit pricing should be removed. An exception to the requirement for level unit prices was desired for the C-17 program. The following is a statement made by one member of that program: "Had we been buying some commercial item that was mass produced, this (level unit pricing) would not have been a problem. But since we were buying a military aircraft which has varying cost based on the production rate, and our rate was going to be varying over the next seven years, this was not logical." Varying costs are based on production rates, and long multiyear programs for large weapon systems, such as aircraft and ships, have varying production rates. On these expensive items a small variance in the production rate will translate into very large dollar differences in the estimated level unit price and the actual per unit costs.

Commentary: The researcher believes that while unit pricing is not perfect it is necessary. Unit pricing under a multiyear contract differs from an annual year contract. It

is true that per unit costs become more difficult to calculate as the variables affecting price and cost have greater interaction over time, but unit pricing is the one element used to form comparisons between annual and multiyear cost proposals. Without an effort to diminish the impact of time on this element, the resulting figures would be meaningless. In order to arrest this erosion, level unit pricing is used to affect prices. [Ref. 16: p. 18]

The only exceptions to level unit pricing are; (1) the application of an economic price adjustment provision, or (2) when level unit pricing is not in the Government's interest, the head of a contracting activity or a designee may approve the use of variable unit pricing.

3. **Issue:** The increased initial funding required for the EOQ and advanced buy requirements of multiyear procurement.

Response: Twelve respondents expressed concern over the increased initial funding required for multiyear contracts. The respondents feel the funding needed to finance the EOQ in the first year of multiyear procurements use money needed for other important weapon programs. If a program passes all the hurdles and is approved for multiyear procurement, the risk for cancellation is remote. They also feel annual legislation requiring the full funding of cancellation ceilings should be discontinued and the subsequently unfenced Total Obligation Authority (TOA) used to fund other programs and thereby lower the overall DOD TOA requirement. On the other hand, a comptroller working for OSD stated:

> If we are reasonably sure there will be an ongoing requirement for a given system, we should commit to multiyear procurement. For better or worse, in recent years those have been few and far between. Secondly, once a decision is made to pursue

MYP, the Service should budget the appropriate level of investment upfront, particularly for EOQ material, to ensure that maximum savings are attained. [Ref. 34]

Commentary: Congress directs the EOQ advance procurement be funded to the limit of the government's liability. This precludes requiring any future appropriation to satisfy the government's liability should a multiyear contract be canceled. Given the recent instability and uncertainty with the DoD budget, the services have been reluctant to commit to a given procurement profile. Of the services, the Army appears to be the most reluctant to provide initial EOQ funding. Not only did a comptroller from OSD emphasize the Army as being especially reluctant but a former Army program manager cited a recent incident where a program lost significant potential savings due to the refusal of the Army to fund the full EOQ requirement.

The researcher speculates that Congress would be reluctant to make this change. If the change to the regulations was allowed and a service decided to cancel a multiyear contract which was not fully funded, Congress would be forced to find the funds for the cancellation charge from other programs. This is the reason the regulations regarding fully funded cancellation ceilings were enacted in the first place.

4. **Issue:** Discount savings of multiyear procurements over annual procurements.

Response: Three respondents expressed a concern over the large cost savings of multiyear procurements over annual procurements expected by Congress. Congress has traditionally seen large discounts for multiyear procurements over single year procurements. That is to say the discount to the PROPOSED price has been in that range.

The C-17 contractor offered a 5% discount to contract on a multiyear basis but it was to an ALREADY NEGOTIATED price. To make the discount appear presentable for Congress required considerable extra work. The government documented and presented the price advantages to the savings obtained against prices of the out year options in a negotiated production contract for aircraft of a previous lot.

Commentary: The researcher believes that a cost benefit should be realized from the use of multiyear contract over an annual contract. Due to the length of the contracts and the requirement of a cancellation ceiling the government takes on considerable more risk using multiyear procurement. As to the "large" percentage savings required by Congress, current multiyear programs seem to show otherwise. Referring to Table 1 in Chapter 2, six of the eleven current and proposed multiyear programs provide less than ten percent cost savings. During an interview with an individual involved with the DDG-51 program he stated, "While we only calculate a 6.4% cost savings, the program provides a tremendous benefit to the industrial base." The researcher speculates that Congress considers other factors, such as the impact to the industrial base, when they decide whether or not to support a multiyear program. Also, the more stability (less risk) the program has the less cost savings required to offset the risk.

5. **Issue:** Large number of configuration changes makes it difficult to achieve the projected cost savings over time.

Response: One respondent stated that it is difficult to achieve projected cost savings when there are a large number of configure changes.

Commentary: The researcher believes this contract should not even be a multiyear contract. Multiyear procurement is designed for mature, stable programs. One study conducted in 1994 found that 79% of industry respondents and 93% of Government respondents felt that the multiyear procurement programs they were working on were stable with only some ECPs. [Ref. 10: p.83] If there are a large number of configuration changes directly impacting the program, more work should go into the process of selecting a proper multiyear candidate. While a stable design will generate some ECPs, a large number of ECPs is a definite indicator of program instability.

6. **Issue:** Inadequate timing of multiyear procurements.

Response: Fourteen respondents had an issue with starting multiyear procurements during the wrong time of the budget cycle. They stated that the multiyear procurement process should be started in sufficient time to support the POM for the year in which the contract is to be initiated.

Commentary: The researcher agrees with the respondents on the issue of multiyear procurement timing. The multiyear procurement process needs to allow enough time to do a credible feasibility study, come up with good cost estimates and to give the budget panels at the command, service and OSD levels plenty of time to review the submission. Multiyear procurements that are proposed late quite often will not allow the program office sufficient time to do the research and analysis needed to see where the potential savings are, and whether the multiyear procurement is really worth pursuing. Also, inadequate attention will be given to the administrative details. Thinking through and

properly integrating the CLIN structure, funding clause, cancellation clause (and cancellation ceiling amounts), etc. takes time.

E. CONCLUSION

Multiyear procurement is a viable method for weapon systems acquisition. While there are aspects of multiyear procurement that some program offices would, at times, like to change, multiyear procurement is workable as is.

It is difficult to develop a system that meets the disparate needs of the contractor, program office and Congress. The end result has been the development of a system based on compromise and accommodation. Multiyear procurement is designed to satisfy conflicting needs and in doing so cannot be everything to everybody. While multiyear procurement represents budget stability to the contractor and program office, it represents budget inflexibility to Congress. While the services enjoy the economic savings provided by multiyear procurement they do not like the large up front funding required.

When the program office considers multiyear procurement candidates, they must achieve a reasonable balance of benefits and risks. The criteria require that (1) the estimated contract costs and projected savings be realistic, (2) the minimum requirement (total quantity, production rate, and procurement rate) for the system be expected to remain substantially unchanged, (3) there is a reasonable expectation that sufficient funding will be requested by DOD to carry out the contract, and (4) the design be stable. Failing to meet one or more of the criteria may not necessarily mean that a system is an inappropriate candidate, but indicates areas of increased risk that must be weighed against

the potential savings to determine whether multiyear procurement approval be granted. [Ref. 25: p. 2]

Consequently, approval authorities are ambivalent about multiyear procurements – wanting to obtain their advantages on the one hand; anxious to avoid their risks and shortcomings on the other hand. As a result, a set of requirements for the successful submission of multiyear procurements requests has been developed. Some of these are legislated requirements, while others have to do with proper program management. In each case, the program office plays the key role in seeing that these requirements are met, and that the projected benefits of a multiyear procurement candidate are actually achieved. [Ref. 20: p. 49] The handbook contained in Chapters two and three was developed to assist the program office in this endeavor.

F. RECOMMENDATIONS

Multiyear procurement has become heavily associated with the acquisition of large weapon systems. More consideration should be given to the use of multiyear procurement for smaller acquisitions. Multiyear procurement need not be for the maximum of five years, but could be for as little as two or three years. The FY 84 Appropriations Act authorized entry into small multiyear contracts without prior congressional approval. In today's bureaucratic and cumbersome acquisition environment, this decentralizes and streamlines, to some degree, multiyear procurement approval. However, be aware that the additional up front funding for EOQ advanced procurement is still subject to the

approvals and procedures of the normal budget process. If the initial savings estimate is substantiated by contractor proposals and eventually negotiated prices, the approval process for small multiyear contracts is essentially like any other annual contract. [Ref. 33: p. 19]

A respondent to the questionnaire recommended that each service establish a staff focal point for multiyear procurement. This focal point should understand the law, regulations, policies and how multiyear contracts in general work. This individual can be an advocate for multiyear procurement and help advertise the potential benefits. This individual can be a staff consultant for each program manager undertaking a multiyear procurement. This kind of facilitator keeps each program management office from having to start from scratch and can make multiyear procurement less intimidating to newcomers.

The focal point can also place more policy emphasis, accompanied by how-to guidance on using multiyear procurement for small and medium procurements. Congressional approval would not be required where the multiyear criteria fit lower dollar value procurements. There is undoubtedly untapped potential to generate multiyear procurement savings in this less than major systems arena.

The services should collaborate on developing a central multiyear procurement guidance manual. There would be merit in the services evaluating each others' guidance material and consolidating what is common in a joint or OSD publication (or via the Defense Acquisition Deskbook). This will develop a uniform process available to everyone in DOD.

G. SUGGESTIONS FOR FURTHER RESEARCH

There are a few other areas of research which will help us gain a better understanding of multiyear procurement. These areas are:

1. Using of Multiyear Procurement in Less Than Major Weapon System Acquisition

There are countless opportunities to take advantage of the benefits of multiyear procurement with smaller procurements. There appears to be a reluctance to use multiyear contracting with these smaller procurements. The discovery and examination of these reasons would help expand the use of multiyear procurement into what appears to be a large market for its use.

2. Development of a Joint Service Multiyear Guide

There is much overlapping work being done on multiyear procurement by the different services. Research should be done to discover who is developing what within the Department of Defense. A survey could also be disseminated to discover the support which exists DOD wide for the development of a joint guide.

3. The Influence of Politics on Multiyear Procurement

A study focusing solely on the past and present influence of politics on multiyear procurement. It would be extremely interesting to discover to what extent politics have shaped our final multiyear contracts. Also, how this political influence may have benefited or harmed these multiyear procurements.

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DDG-51
ARLEIGH BURKE CLASS
MULTIYEAR PROCUREMENT
(FY98 - FY01)

February 1997

Exhibit MYP-1

MULTIYEAR PROCUREMENT CRITERIA

Program: DDG-51 ARLEIGH BURKE CLASS

The Navy's long term acquisition strategy for the DDG-51 Class program is to establish a stable production rate of three ships per year. A three ship production rate will provide the Navy with affordable ships and maintain the current surface combatant industrial base, which includes both DDG-51 Class shipbuilders and hundreds of prime, second, and third tier equipment manufacturers.

The Navy's 12 ship Multiyear Procurement (MYP) acquisition strategy spans a four year procurement (FY 98-01) of 3 DDGs per year. Ship construction, AEGIS Weapon System production, and Sonar Dome Rubber Window (SDRW) manufacturing contracts are part of this MYP. Congress has previously approved SDRW for MYP. SDRW multiyear procurement savings are not included in the total savings reported in this MYP.

This MYP and savings identified is based upon each shipbuilder, Bath Iron Works (BIW) and Ingalls Shipbuilding (ISI), receiving an equal allocation of work over the multiyear period. However, industrial base considerations may require future adjustments to projected shipbuilder workload and allocations, provided that total program estimates remain within the budgeted MYP.

The AEGIS Weapon System procurements will be an integration of products from three different prime contractors: Lockheed-Martin Moorestown (AN/SPY-1D antenna, signal processor, and miscellaneous subsystem equipments, plus the integration and test of all subsystems), Raytheon (AN/SPY-1D transmitter and fire control transmitter), and Lockheed-Martin Pittsfield (fire control director controller). Procurement of 12 weapon systems with multiyear contracts is planned beginning in FY 1998. The contracts will fulfill FY98-FY01 AEGIS Weapon System baseline 6 and 7 DDG-51 Class requirements.

The Sonar Dome Rubber Window (SDRW) MYP, begun in FY96, will continue. MYP contracts will fulfill FY 96 through FY 05 requirements, effectively buying out the remaining SDRW requirements for the DDG-51 Class. This MYP contract will execute independently of the ship and AEGIS Weapon System multiyear contracts.

This submission is intended to satisfy Congressional notification requirements.

The planned MYP acquisitions will fulfill FY 98 through FY 01 requirements.

CRITERIA

1. Benefit to the Government :

a. Savings and Cost Avoidance : The Profit Related to Offers (PRO) concept, whereby work is allocated among the shipbuilders but competitive pressure is maintained to achieve realistic pricing, is central to the MYP approach. The proposed MYP will save the government approximately $788M over an annual procurement for 12 ships in the same time frame. The MYP will achieve savings of 6.4%, essentially providing for the procurement of 12 ships for the price of 11 when compared to an annual procurement. This additional ship over the four year period provides an additional unit for amortizing fixed manufacturing and overhead costs. This leads to lower unit costs for DDG-51 Class procurements as well as other Navy programs that procure systems and services from common shipyards and vendors. The program has surveyed both shipbuilders and the three AEGIS Weapon System manufacturers and based upon review of their written responses these significant savings could be achieved starting with the advanced procurement of materials beginning in FY97. Overall savings will be achieved through lowered hardware costs resulting from large lot and EOQ procurements of shipbuilder material and major equipments; improved production efficiencies, as well as reduced production man-hours and overhead costs.

SOURCE OF SAVINGS	$M	%
INFLATION	25	3%
VENDOR PROCUREMENT/SUBCONTRACTING	404	51%
MANUFACTURING	210	27%
ENGINEERING	149	19%
TOTAL	$ 788	100%

INFLATION - A comparison of constant FY98 and then year dollar estimates indicates a savings attributed to inflation of $25M. This represents 3% of the total MYP savings.

VENDOR PROCUREMENT/SUBCONTRACTING - MYP will permit economical order quantity procurement which will reduce the cost of material and subcontractor effort by $404M. This represents 51% of the total MYP savings. The long term commitment offered by the MYP will stabilize the shipbuilder and GFE industrial base resulting in:

- stable employment levels and retention of skilled labor
- less disruption on vendor delivery schedules; and
- enhanced viability of the shipyards as well as other providers.

MANUFACTURING - MYP allows continuous, stable construction of 12 ships and related combat system components. Savings of $210M result from greater shipyard and vendor efficiency, improved employment stability, and improved overhead planning and capitalization. This represents 27% of the total MYP savings.

ENGINEERING - Savings of $149M are achieved through more efficient pre-production planning for one build of six ships (MYP), vice conducting separate annual efforts for the same number of ships. This represents 19% of the total MYP savings.

b. Impact on Industrial Base :

IMPROVED COMPETITION

The ship construction contracts will fulfill FY 98 through FY 01 requirements using the Profit Related to Offers (PRO) concept, whereby work is allocated among the shipbuilders but competitive pressure is maintained to achieve realistic pricing. The PRO strategy , successfully employed in the FY96/97 ship construction competition, will again be employed in conjunction with the multiyear procurement.

The Navy has previously reviewed the sole source strategy for AEGIS Weapon System acquisition. Sole source procurement was determined to provide the most advantageous prices and result in a lower overall cost.

A sole source MYP contract has been awarded to the BFGoodrich Company for production of SDRWs. This contract is not affected by the DDG-51 Class 12-ship MYP.

ENHANCED INVESTMENT

This MYP provides a stable business base and sufficient workload to the DDG-51 Class shipbuilders, AWS manufacturers, and second and third tier vendors needed to justify enhanced capital investment. Up front investment at the prime vendor level in EOQ procurements will improve production efficiency and achieve cost reductions over the multiyear period. MYP will facilitate improved production planning and scheduling, leading to increased production efficiencies that result in further cost savings.

IMPROVEMENT IN VENDOR SKILL LEVELS

Multiyear procurement will stabilize the entire prime and subcontractor workforce, allow for long range skill level training in critical trades and crafts, as well as enhance the professional development of all levels of management. Use of multiyear contracting should result in higher retention rates, increased skill levels, and enhanced productivity at the vendor during the contract performance. These potential benefits are reflected in the MYP savings projected in these exhibits.

TRAINING PROGRAM

Multiyear procurement allows for expanded long range training at all levels. Supervisors and managers can be selected and trained to meet workforce requirements as well as to implement production improvements. Apprenticeship and trainee programs become more cost effective for a larger, longer procurement program. Additionally, multiyear contracting should enable contractors to offer greater job security to employees, particularly at the subcontractor or vendor level. This should reduce employee turnover rates, improve skill levels, and reduce costs to hire and train new employees.

PROGRESS PAYMENT CHANGES

There are no changes planned to contractual clauses currently employed for progress payments. The improved production process and procurement of EOQ materials and resources will accelerate the funding flow through progress payments to the prime contractors as well as to vendors and subcontractors.

USE OF MULTIYEAR CONTRACTORS (VENDORS)

The government will enter into multiyear contracts with the two shipbuilders, (Bath Iron Works and Ingalls Shipbuilding) the AEGIS Weapon System manufacturers (Lockheed-Martin Moorestown, Raytheon, and Lockheed-Martin Pittsfield), and continue the Sonar Dome Rubber Window procurement (BFGoodrich). Multiyear contracts for twelve shipsets of selected class standard equipments (CSE) will be arranged with the various CSE vendors through the Lead Yard Services contract. The contractors' use of multiyear subcontracts will depend upon their make/buy decision at the time of contract award.

INCREASED PRODUCTION CAPACITY

The production rates during the multiyear period are within the shipbuilders' and AWS contractors' existing capacity. No increase in production capacity is anticipated or required. No acceleration in delivery schedule of DDG-51 Class ships is planned. Delivery of ships will be geared toward stabilizing workload, resulting in approximately 3 ships delivered per year, with each shipbuilder having an 8 month interval between their respective deliveries. Deliveries of AEGIS Weapon Systems are based entirely on the ship construction and delivery schedule. For the Sonar Dome Rubber Window, the proposed quantity and production rate are below the contractor's existing capacity.

2. Stability of Requirement :

The DDG-51 Class acquisition is structured to provide for timely replacement of battle force surface combatants. A 57 ship total program was approved by the Defense Acquisition Board at Milestone IV. To date 38 ships have been awarded and 19 remain to be procured. This MYP will satisfy 12 ships of the remaining 19. The Navy must build surface combatants at a rate of at least 3 ships per year to satisfy force level requirements and to alleviate excessive fleet Operating Tempo (OPTEMPO). This need for DDG-51 Class ships is expected to remain unchanged throughout the contract period.

3. Stability of Funding :

The DDG-51 MYP is a critical component of the Navy's future years defense plan. Stability of funding is considered very good since the DDG-51 Class is the major surface combatant shipbuilding program and is given high priority by the Navy when allocating planned resources. The AEGIS shipbuilding program has continuously received strong Congressional support. A stable, three ship per year production rate will provide the Navy with affordable ships and maintain the current surface combatant industrial base. The Department is committed to fund this MYP at the required level throughout the contract period.

4. Stable Configuration :

The DDG-51 Class program is technically mature. To date 38 ships have been awarded, 19 (of the 38) have delivered, and 19 are in various stages of planning and construction. The Navy will have 10 Flight IIA ships under contract prior to commencing the MYP. These Flight IIA ships, as well as the preceding 28 DDG-51 Class ships awarded will provide this MYP a high degree of configuration stability. Introduction of Baseline 7 combat system improvements is included in the MYP budget estimates. This upgrade is scheduled for installation on the last FY98 ship (DDG-91). The DDG-51 Class has successfully introduced in-line combat system baseline improvements in the past.

The DDG-51 Class program will complete production as a Flight IIA ship.

5. Degree of Cost Confidence :

Cost estimates reflect experience with AEGIS Class ships since 1978, including 27 delivered and deployed CG-47 Class ships, and 19 DDG-51 Class ships delivered through FY96. An additional 19 DDG's are currently in various stages of planning and construction.
The PRO concept whereby work is allocated among the shipbuilders but competitive pressure is maintained to achieve realistic pricing is central to the MYP approach.
The savings shown in these exhibits are based on historical experience and surveys of shipbuilders, CSE vendors, AEGIS Weapon System manufacturers, and equipment vendors. There is a high degree of confidence the DDG-51 Class program can achieve the savings identified and procure these 12 ships within the funding identified in this MYP.

6. Degree of Confidence in Contractor Capability :

BIW and Ingalls have been constructing AEGIS class ships since 1978. Ingalls was the lead yard for the CG-47 program. BIW received their first Cruiser contract in FY82. Twenty-seven Cruiser were constructed and successfully deployed.
BIW and ISI continued their CG-47 Class success on construction of DDG-51 Arleigh Burke Class ships. The lead DDG-51 Class shipbuilder, BIW, has been awarded contracts for 21 ships and completed the construction of 10. The DDG-51 Class follow yard, Ingalls, has been awarded contracts for 17 ships and completed construction of 9. To date, 13 Destroyers have deployed. All of the AEGIS Weapon System prime contractors have nine to eighteen years experience in producing AEGIS equipments and each are presently under production contracts. The prime contractors have produced high quality ships and systems on schedule on previous CG-47 and DDG-51 Class procurements. The contractors have produced up to 5 AEGIS class ships in a year.

The Navy has a high degree of confidence in the contractors capability to produce the required quantities on time.

DATE: 2/22/97

ACQUISITION STRATEGY COMPARATIVE SUMMARY

(TY$ in Millions)

Program: DDG-51 ARLEIGH BURKE CLASS

	ANNUAL CONTRACTS	MYP ALTERNATIVE
NUMBER OF UNITS	12	12
TOTAL CONTRACT PRICE	$12,251	$11,463
CANCELLATION CEILING	--	--
$ COST AVOIDANCE OVER ANNUAL		$788
% COST AVOIDANCE OVER ANNUAL		6.4%
RISK RELATED FACTORS:		
- REQUIREMENT STABILITY		LOW RISK
- FUNDING STABILITY		LOW RISK
- CONFIGURATION STABILITY		LOW RISK
- COST CONFIDENCE		LOW RISK

EXHIBIT MYP-2

DATE: 2/22/97

TOTAL PROGRAM FUNDING PLAN

DDG-51

(TY$ in Millions)

	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	Total
QUANTITY			3	3	3	3	12
ANNUAL PROPOSAL							
END ITEM			2,992	3,025	3,118	3,107	12,242
LESS ADVANCED PROCUREMENT			(4)	(4)	(4)	(4)	(16)
NET REQUEST (Full Funding)			2,988	3,021	3,114	3,103	12,226
AP Total		8	9	8			25
(FOR FY 98)		2					2
(FOR FY 99)		4					4
(FOR FY 00)		2	1				4
(FOR FY 01)			4				4
(FOR FY 02)			1				1
(FOR FY 03)			3				3
(FOR FY 04)				4			4
(FOR FY 05)				4			4
TOTAL REQUIRED FUNDING (TOA)		8	2,997	3,029	3,114	3,103	12,251
MULTI-YEAR PROPOSAL							
END ITEM			2,798	2,843	2,917	2,894	11,452
LESS ADVANCED PROCUREMENT			(123)	(174)	(122)	(122)	(541)
NET REQUEST (Full Funding)			2,675	2,669	2,795	2,772	10,911
AP Total	99	296	149	8			552
(FOR FY 98)	25	97					122
(FOR FY 99)	25	68	81				174
(FOR FY 00)	25	67	31				123
(FOR FY 01)	24	64	33				121
(FOR FY 02)			1				1
(FOR FY 03)			3				3
(FOR FY 04)				4			4
(FOR FY 05)				4			4
TOTAL REQUIRED FUNDING (TOA)	99	296	2,824	2,677	2,795	2,772	11,463
PROPOSED SAVINGS	(99)	(288)	173	352	318	331	788 *

OUTLAYS	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY02	FY 03	FY 04
ANNUAL	0	0	704	1,403	2,146	2,660	2,295	1,606	911
MULTI-YEAR	0	23	827	1,448	2,008	2,428	2,035	1,409	812
SAVINGS	0	(23)	(123)	(45)	139	232	259	197	99

* Includes $45M of GFE savings attributable to greater industrial base stability resulting from this 12 ship MYP.

EHIBIT MYP-3

DATE: 2/22/97

CONTRACT FUNDING PLAN

DDG-51 BASIC CONSTRUCTION (SCN)

(TY$ in Millions)

	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	Total
QUANTITY			3	3	3	3	12
ANNUAL PROPOSAL							
END ITEM			1,316	1,337	1,381	1,378	5,412
LESS ADVANCED PROCUREMENT							
MULTI-YEAR PROPOSAL							
END ITEM			1,150	1,185	1,211	1,197	4,743
LESS ADVANCED PROCUREMENT			(92)	(163)	(111)	(122)	(477)
NET REQUEST (Full Funding)			1,058	1,022	1,100	1,086	4,266
AP Total	99	238	140	0	0	0	477
(FOR FY 98)	25	67					92
(FOR FY 99)	25	57	81				163
(FOR FY 00)	25	57	29				111
(FOR FY 01)	24	57	30				111
TOTAL REQUIRED FUNDING (TOA)	99	238	1,198	1,022	1,100	1,086	4,743
PROPOSED SAVINGS	(99)	(238)	118	315	281	292	669

OUTLAYS	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY02	FY 03	FY 04	FY 05	TOTAL
ANNUAL	0	0	197	530	936	1,150	1,157	821	414	207	5,412
MULTI-YEAR	0	22	320	581	814	945	925	645	328	163	4,743
SAVINGS	0	(22)	(123)	(51)	122	205	232	176	86	44	669

EHIBIT MYP-4
DATE: 2/22/97

CONTRACT FUNDING PLAN

AEGIS MK-7 WEAPON SYSTEM (AWS)

(TY$ in Millions)

	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	Total
QUANTITY			3	3	3	3	12
ANNUAL PROPOSAL							
END ITEM			332	303	300	291	1,226
LESS ADVANCED PROCUREMENT			0	0	0	0	0
NET REQUEST (Full Funding)			332	303	300	291	1,226
MULTI-YEAR PROPOSAL							
END ITEM			315	284	281	272	1,152
LESS ADVANCED PROCUREMENT			(28)	(7)	(7)	(7)	(49)
NET REQUEST (Full Funding)			287	277	274	265	1,103
AP Total		49		0	0	0	49
(FOR FY 98)		28					28
(FOR FY 99)		7					7
(FOR FY 00)		7					7
(FOR FY 01)		7					7
TOTAL REQUIRED FUNDING (TOA)		0	259	270	267	258	1,054
FOR: TOTAL REQUIRED FUNNDING (TOA)		49	287	277	274	265	1,152
PROPOSED SAVINGS	(49)	45	26	315	26	26	74

OUTLAYS	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	TOTAL
ANNUAL	0	0	10	65	150	251	264	218	152	60	30	20	6	1,226
MULTI-YEAR	0	0	9	62	142	237	247	204	142	56	28	19	6	1,152
SAVINGS	0	0	1	3	8	14	17	14	10	4	2	1	0	74

EHIBIT MYP-4

DATE: 2/22/97

CONTRACT FUNDING PLAN

SONAR DOME RUBBER WINDOW

(TY$ in Millions)

	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY02	FY 03	FY 04	FY 05	TOTAL
QUANTITY	2	4	3	3	3	3	1	2	2	2	25
ANNUAL PROPOSAL											
END ITEM DDG 51 CLASS (SCN)	10	10	10	10	11	11	11	12	12	12	109
MULTI-YEAR PROPOSAL											
END ITEM DDG 51 CLASS (SCN)	2	4	4	4	4	4	1	3	4	4	32
LESS ADVANCED PROCUREMENT	0	4	4	4	4	4	1	3	4	4	32
NET REQUEST (Full Funding)	2	0	0	0	0	0	0	0	0	0	2
AP Total	5	8	9	8							30
FOR FY 97	5										5
FOR FY 98	1	2									3
FOR FY 99		4									4
FOR FY 00		2	1								3
FOR FY 01			4								4
FOR FY 02			1								1
FOR FY 03			3								3
FOR FY 04				4							4
FOR FY 05				4							4
TOTAL REQUIRED FUNDING (TOA)	7	8	9	8							32
PROPOSED SAVINGS	3	2	1	2	11	11	11	12	12	12	77

OUTLAYS	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY02	FY 03	FY 04	FY 05	TOTAL
ANNUAL	10	10	10	10	11	11	11	12	12	12	109
MULTI-YEAR	8	8	8	8	0	0	0	0	0	0	32
SAVINGS	2	2	2	2	11	11	11	12	12	12	77

EHIBIT MYP-4

DATE: 2/22/97

PRESENT VALUE ANALYSIS

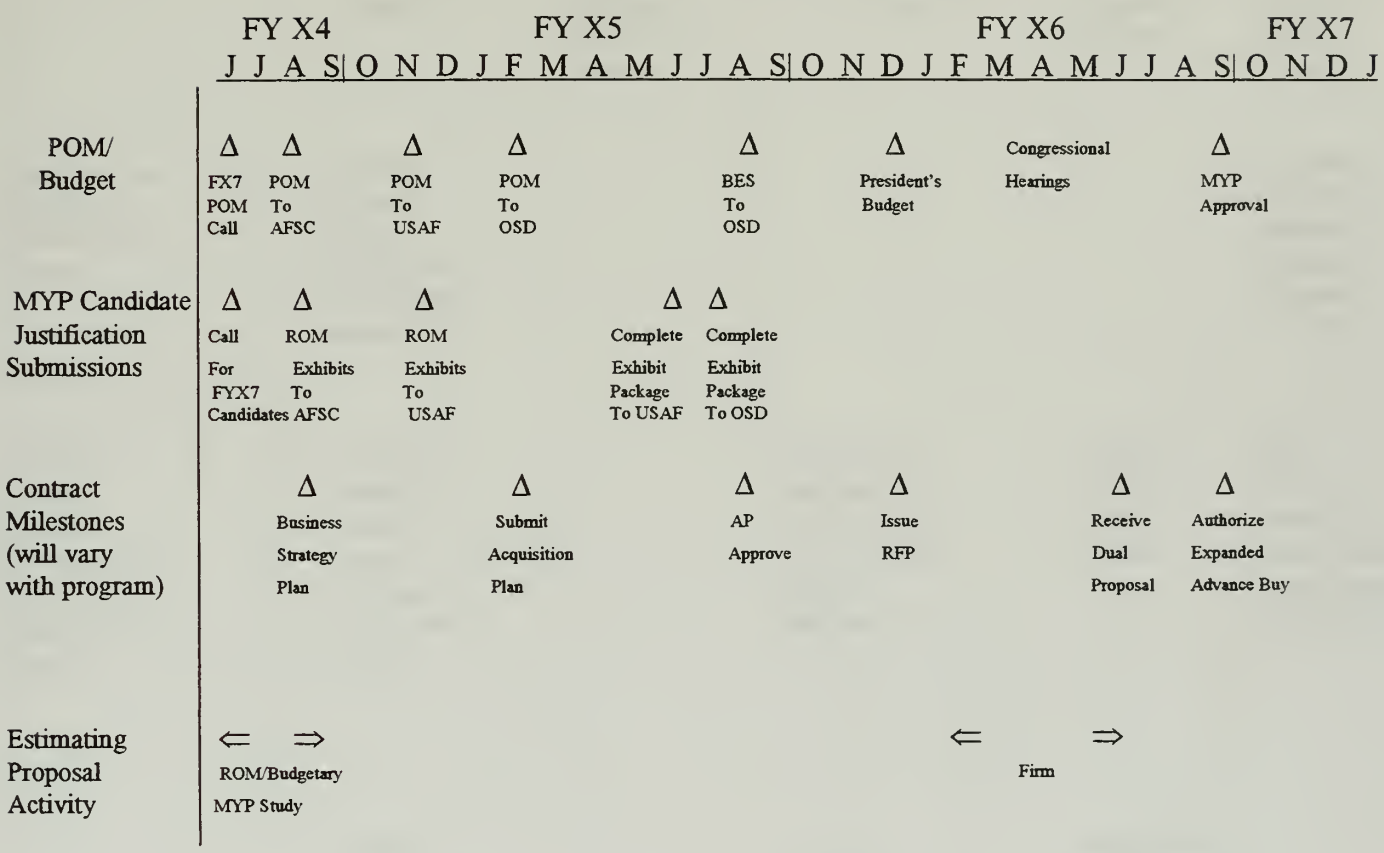
OUTLAYS ($ in Millions)

	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	TOTAL
ANNUAL PROPOSAL													
THEN YEAR DOLLARS	0	704	1,403	2,146	2,660	2,295	1,606	911	427	52	36	10	12,251
CONSTANT FY98 DOLLARS	0	663	1,292	1,933	2,339	1,970	1,344	743	339	40	27	8	10,699
PRESENT VALUE (2.7%)	0	663	1,258	1,832	2,160	1,771	1,177	634	282	33	21	6	9,835
MULTIYEAR PROPOSAL													
THEN YEAR DOLLARS	23	827	1,448	2,008	2,428	2,035	1,409	812	377	50	35	10	11,463
CONSTANT FY98 DOLLARS	22	779	1,334	1,808	2,136	1,747	1,179	662	300	39	26	7	10,039
PRESENT VALUE (2.7%)	22	779	1,299	1,714	1,972	1,571	1,032	565	249		21	6	9,260
DIFFERENCE													
THEN YEAR DOLLARS	(23)	(123)	(45)	139	232	259	197	99	50	2	1	0	788
CONSTANT FY 98 DOLLARS	(22)	(116)	(42)	125	204	222	165	81	39	1	1	0	660
PRESENT VALUE (2.7%)	(22)	(116)	(41)	118	188	200	144	69	33	1	1	0	576

EXHIBIT MYP-5

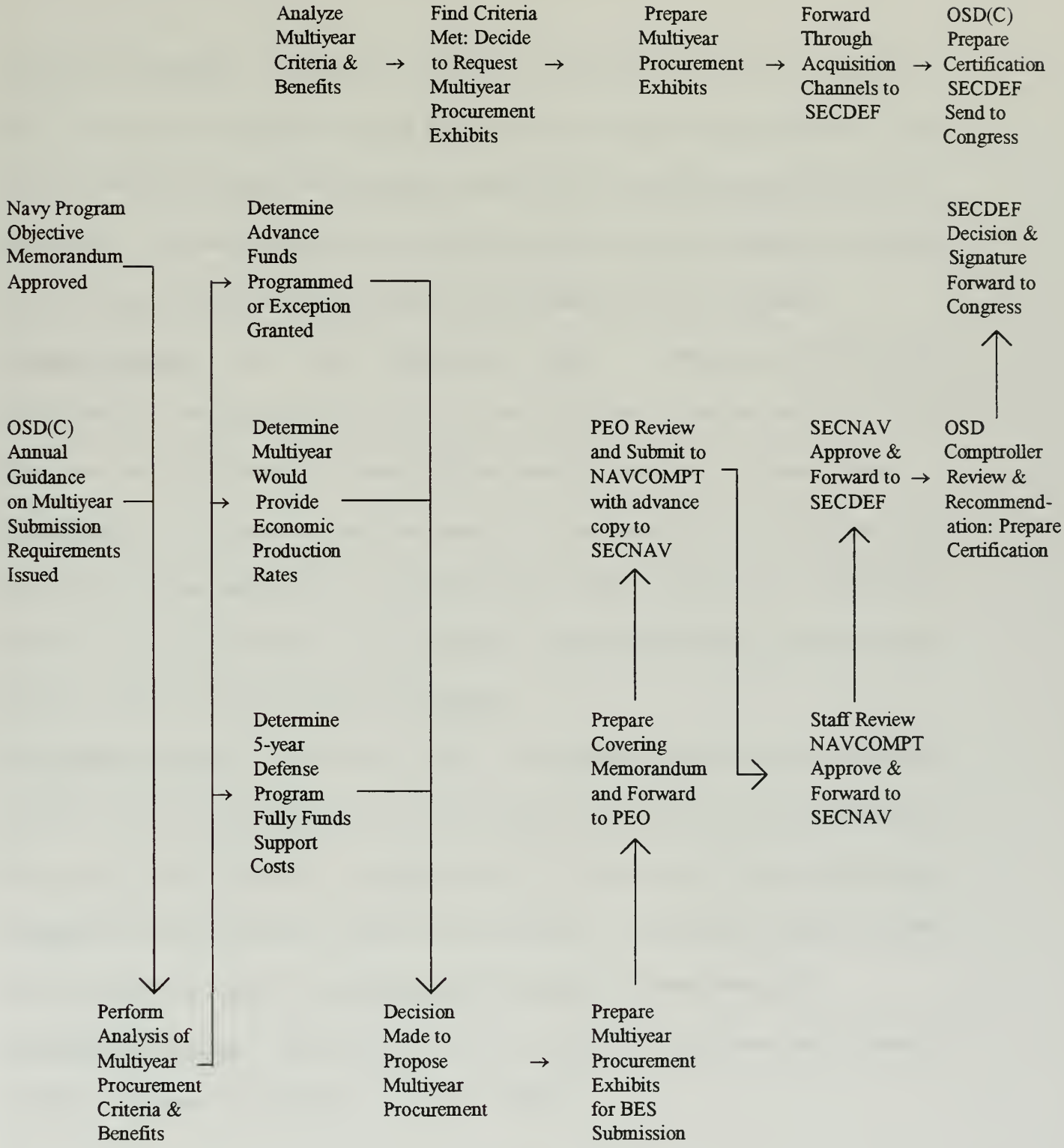
APPENDIX B. MULTIYEAR TIMING PROCESS

Defense Satellite Communications System Program, DSCS III,
MYP Candidate Approval Plan


FY X4
FY X5
FY X6
FY X7
J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J
POM/ Budget
Δ FX7 POM Call
Δ POM To AFSC
Δ POM To USAF
Δ POM To OSD
Δ BES To OSD
Δ President's Budget
Congressional Hearings
Δ MYP Approval
MYP Candidate Justification Submissions
Δ Call For FYX7 Candidates
Δ ROM Exhibits To AFSC
Δ ROM Exhibits To USAF
Δ Complete Exhibit Package To USAF
Δ Complete Exhibit Package To OSD
Contract Milestones (will vary with program)
Δ Business Strategy Plan
Δ Submit Acquisition Plan
Δ AP Approve
Δ Issue RFP
Δ Receive Dual Proposal
Δ Authorize Expanded Advance Buy
Estimating Proposal Activity
⇐ ⇒ ROM/Budgetary MYP Study
⇐ ⇒ Firm

POM - Program Objective Memorandum
ROM - Rough Order of Magnitude
BES - Budget Estimate Submission
AP - Acquisition Plan

APPENDIX C. MULTIYEAR PROCUREMENT CERTIFICATION


Analyze Multiyear Criteria & Benefits
Find Criteria Met: Decide to Request Multiyear Procurement Exhibits
Prepare Multiyear Procurement Exhibits
Forward Through Acquisition Channels to SECDEF
OSD(C) Prepare Certification SECDEF Send to Congress
Navy Program Objective Memorandum Approved
Determine Advance Funds Programmed or Exception Granted
SECDEF Decision & Signature Forward to Congress
OSD(C) Annual Guidance on Multiyear Submission Requirements Issued
Determine Multiyear Would Provide Economic Production Rates
PEO Review and Submit to NAVCOMPT with advance copy to SECNAV
SECNAV Approve & Forward to SECDEF
OSD Comptroller Review & Recommend-ation: Prepare Certification
Determine 5-year Defense Program Fully Funds Support Costs
Prepare Covering Memorandum and Forward to PEO
Staff Review NAVCOMPT Approve & Forward to SECNAV
Perform Analysis of Multiyear Procurement Criteria & Benefits
Decision Made to Propose Multiyear Procurement
Prepare Multiyear Procurement Exhibits for BES Submission

APPENDIX D. GLOSSARY

Advance Procurement - An exception to the full funding policy which allows procurement of long lead time items (advanced long lead procurement) or economic order quantities of items (advance EOQ procurement) in a fiscal year in advance of that in which the related end item is to be acquired. Advance procurements may include materials, parts and components as well as costs associated with the further processing of those materials, parts and components.

Annual Funding - The current Congressional practice of limiting authorizations and appropriations to one fiscal year at a time. The term should not be confused with two year or three year funds which permit the Executive Branch more than one year to obligate the funds.

Cancellation - A term unique to multiyear contracts. The unilateral right of the Government not to continue contract performance for subsequent fiscal years' requirements. Cancellation is effective only upon the failure of the government to fund successive fiscal year requirements under the contract. It is not the same as termination.

Cancellation Ceiling - The cancellation ceiling is the maximum amount that the Government will pay the contractor which the contractor would have recovered as a part of the unit price, had the contract been completed. The amount which is actually paid to the contractor upon settlement for unrecovered costs (which can only be equal to or less than the ceiling) is referred to as the cancellation charge. This ceiling generally includes only nonrecurring costs.

Expenditure Funding - Governments funds the Contractor's expenditures plus termination liability. Synonymous with funding to termination liability.

Full Funding - Funds are available at the time of award to cover the total estimated cost to deliver a given quantity of complete, militarily useable end items or services. Under current policy (DoD Directive 7200.4), the entire funding needs of the fiscal year production quantity must be provided unless an exception for advance procurement has been approved. A test of full funding is to ask the question, Does any part of this year's buy depend on a future year appropriation to result in the delivery of complete units? If the answer is yes, the contract is probably not fully funded. The principle of full funding applies to the Procurement Title of the annual appropriation act and therefore affects production contracts but not RDT&E contracts.

Incremental Funding - Funds are not available at the time of contract award to complete a fiscal year's quantity of end items in a finished, military useable form. Future year appropriations are required in order to complete the items or tasks.

Multiyear Acquisition - means contracting, to some degree, for more than the current year requirement. Examples include multiyear contracts and advance EOQ acquisition. Generally, advance long lead acquisitions in support of a single year's requirement would not be considered multiyear acquisition.

Multiyear Funding - A Congressional authorization and appropriation covering more than one fiscal year. The term should not be confused with two year or three year funds which cover only one fiscal year's requirement but permit the Executive Branch more than one year to obligate the funds.

Nonrecurring Costs - Those production costs which are generally incurred on a one time basis which include such costs as plant or equipment relocation; plant rearrangement; special tooling

and special test equipment; preproduction engineering; initial spoilage and rework; and specialized work force training.

Recurring Costs - Production cost that vary with the quantity being produced such as labor and materials.

Termination for Convenience - Procedure which can apply to any Government contract, including multiyear contracts. As contrasted with cancellation, termination can be effected at any time during the life of the contract (cancellation is commonly effected between fiscal years) and can be for the total quantity or a partial quantity (whereas cancellation must be for all subsequent fiscal years' quantities).

Termination Liability - the maximum cost the Government would incur if a contract is terminated. In the case of a multiyear contract terminated before completion of the current fiscal year's deliveries, termination liability would include an amount for both current year termination charges and outyear cancellation charges.

Termination Liability Funding - Obligating sufficient contract funds to cover the contractor's expenditures plus termination liability but not the total cost of the completed end items.

Unfunded Cancellation Ceiling - The total amount of DoD's liability for which funds have not been budgeted or appropriated in the case of multiyear contract cancellation.

APPENDIX E. SURVEY QUESTIONNAIRE

This questionnaire is being sent to you per our earlier conversation.

The purpose of this questionnaire is to gather insight from individuals who have previous experience in multiyear procurement. Your responses will be analyzed and developed into an appendix for a multiyear procurement deskguide. The knowledge and experience provided in your answers will greatly assist other DoD acquisition personnel in their development of multiyear procurements.

This questionnaire consists of the three questions included in this e-mail. Please answer these questions to the best of you ability on this same e-mail and reply as soon as you can.

1. What were the one or two issues which were the most problematic for your multiyear procurement and what program were you working on?

2. What actions did you take to deal with the issues described in question one?

3. What regulatory or policy changes would you recommend to help facilitate the use of multiyear procurement?

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